

Title (en)

METHODS FOR PREPARING SUPERALLOY ARTICLES AND RELATED ARTICLES

Title (de)

VERFAHREN ZUR HERSTELLUNG VON SUPERLEGIERUNGSARTIKELN UND ZUGEHÖRIGE ARTIKEL

Title (fr)

PROCÉDÉS DE PRÉPARATION D'ARTICLES EN SUPERALLIAGE ET ARTICLES ASSOCIÉS

Publication

EP 3263722 A1 20180103 (EN)

Application

EP 17178125 A 20170627

Priority

US 201615198658 A 20160630

Abstract (en)

A method for preparing an improved article including a nickel-based superalloy is presented. The method includes heat-treating a workpiece 102 including a nickel-based superalloy at a temperature above the gamma-prime solvus temperature of the nickel-based superalloy and cooling the heat-treated workpiece 104 with a cooling rate less than 50 degrees Fahrenheit/minute from the temperature above the gamma-prime solvus temperature of the nickel-based superalloy so as to obtain a cooled workpiece. The cooled workpiece includes a coprecipitate of a gamma-prime phase and a gamma-double-prime phase, wherein the gamma-prime phase of the coprecipitate has an average particle size less than 250 nanometers. An article having a minimum dimension greater than 6 inches is also presented. The article includes a material having a coprecipitate of a gamma-prime phase and a gamma-double-prime phase, wherein the gamma-prime phase of the coprecipitate has an average particle size less than 250 nanometers.

IPC 8 full level

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CPC (source: EP US)

C22C 19/03 (2013.01 - EP US); **C22C 19/05** (2013.01 - EP US); **C22C 19/055** (2013.01 - EP US); **C22C 19/056** (2013.01 - EP US); **C22F 1/10** (2013.01 - EP US)

Citation (search report)

- [X] US 4574015 A 19860304 - GENEUX PAUL D [US], et al
- [IA] EP 2479302 A1 20120725 - HITACHI LTD [JP]
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FR3094018A1; US11821060B2; WO2020188205A3; US11859267B2; DE102022103420A1; WO2023151747A1

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DOCDB simple family (application)

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